

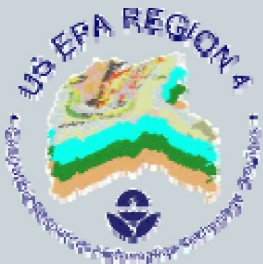
PROJECT BRIEFING SUPERFUND DIVISION DIRECTOR

Florida Phosphate Mine Initiative Region 4, Superfund Division

December 2, 2009



U.S. Environmental Protection Agency



CONCLUSIONS AND RECOMMENDATIONS

- Continue Florida Phosphate Initiative.
- Federal and State policy and guidance needed prior to addressing individual phosphate mining sites.
- Ground-based screening of mines technically infeasible and cost-prohibitive.
- Radiological assessment of residential areas needed to complete the ongoing Coronet RI and overall site.
- Proceed with Tenoroc draft HRS Score/Package and RI/FS.

FLORIDA PHOSPHATE PROJECT

- New and Re-assessed Information:
 - Coronet Radiation Survey Results.
 - Tenoroc Radiation Survey Results.
 - FDOH Radiation Monitoring Program Results.
- Extent of potential impact greater than originally estimated.
- Elevated risks from current exposures.

CORONET INDUSTRIES, INC

- Radiation survey indicates elevated radiation levels over much of Coronet property.
- Radiological impacts to adjacent residential areas suspected.
- Background monitoring at Loyce E. Harpe Park:
 - Former mine converted to County Park (ballfields, mountain biking, hiking, dog park).
 - Gamma radiation levels ranged from 34 to 140 $\mu\text{r/hr}$.
 - Elevated risk (10^{-3}) to recreational users.
 - Radiation levels at “care-taker” residence unknown.

TENOROC MINE

- Post-ESI screening data indicate elevated levels of radiation.
- Radiation data suggests elevated risks to current workers (5×10^{-3}) and recreational users (2×10^{-3}).
- Future resident exposure scenario estimated at 10^{-2} risk.
- Preliminary HRS Score (w/o radiation data) 70.

FDOH RADIATION MONITORING

- FDOH/Polk County voluntary monitoring program, mid-1970's through late-1990's.
- 170 properties surveyed.
- Numerous residential areas identified with gamma radiation levels corresponding to cancer risks in the range of 10^{-3} to 10^{-2} .

RESIDENTIAL AREAS SURVEYED BY FDOH

Subdivision Name	Gamma Radiation Range ($\mu\text{r/hr}$)	Estimated Residential Risk
Floral Lakes	12 to 33 (indoor)	2×10^{-3} to 4×10^{-3}
Christina Woods	10 to 70	1×10^{-3} to 9×10^{-3}
Mission Oaks	45 to 50	6×10^{-3}
West Mulberry Heights	30 to 60	4×10^{-3} to 8×10^{-3}
Imperial Lakes	6 to 50	1×10^{-3} to 6×10^{-3}
Oaks School	30 to 100	4×10^{-3} to 1×10^{-2}

FLORIDA PHOSPHATE CONCLUSIONS

- Scope of potential impacts much broader than originally estimated.
- Data collected by EPA and State indicate formerly mined land developed for residential, commercial, or recreational use could have radiation levels that pose elevated risk.
- Current exposures documented that exceed acceptable EPA and State risk levels.

FLORIDA PHOSPHATE CONCLUSIONS (CONTINUED)

- Scope of potential impacts warrants inclusion of all non-mandatory mine sites with evaluation of CERCLIS sites.
- Individual assessment of sites not appropriate at this time.
 - Socioeconomic and political ramifications need to be addressed.
 - Impracticable/cost-prohibitive.

POTENTIAL OPTIONS

- “Status Quo”
 - Continue to address by Region.
 - No formal decision regarding socioeconomic/political issues.
 - “De facto” assessment of individual sites (e.g., Coronet, Tenoroc).
 - Current exposures not addressed.
- Reconsideration of “Dose-Based Prioritization Strategy”
 - >500 mRem/yr (relocation/exposure mitigation)
 - 100 to 500 mRem/yr (prioritize for assessment/risk mitigation)
 - <100 mRem/yr (address after higher priorities).
- Political Options
 - Establish national TENORM criteria.
 - Exempt TENORM from CERCLA, as with RCRA.
 - New regulations to address mining wastes.
 - Direction and funding to address TENORM issues from phosphate mining pursuant to CERCLA.

RECOMMENDATIONS

- Continue FL Phosphate Initiative
- Brief RA
- Brief HQ

CORONET ACTION ITEMS

- Approval to investigate radiological impacts beyond Coronet property (both residential and non-residential).
- Request approval to conduct radiological assessment in Lincoln Park.
 - Fund-lead assessment
 - Ground-based vs. aerial

TENOROC ACTION ITEMS

- Approval to proceed with preparation of Draft HRS score and package.
- Approval to pursue SAS negotiations with PRPs for RI/FS.
- Approval to issue SNLs to PRPs (including State).
- Guidance for notifying State of potential risks to workers and recreational users.

SUPPLEMENTAL SLIDES

PRP INFORMATION

Company Name	CERCLIS Site	Residential Areas
Borden Chemical Co.	X	X
Cargill, Inc.	X	
CF Industries, Inc.	X	
Coronet Industries, Inc.	X	
Cytec Industries	X	
Estech, Inc.	X	
Exxon Mobile Corp	X	X
Farmland Industries	X	

PRP INFORMATION (CONT.)

Company Name	CERCLIS Site	Residential Areas
Freeport-McMoran Copper & Gold, Inc.	X	
IMC Global, Inc.	X	X
Mosaic Phosphates Co.	X	
US Agri-Chemicals Corp.	X	
US Steel Corp	X	X
W.R. Grace & Co.	X	X
The Williams Companies	X	